

Response under 37 C.F.R. §1.114
Application No. 10/538,689
Attorney Docket No. 052684

REMARKS

Claims 1-20 are pending in the application. Claims 1, 7, 15 and 17 have been amended. No new matter has been added. Claims 21-50 were canceled. In light of the foregoing amendments and the following remarks, Applicants earnestly solicit favorable consideration.

Claims 1-20 had been rejected under 35 U.S.C. § 102(b) as being anticipate by EP 1 085 586.

Applicants respectfully submit this rejection is improper.

In response to the arguments submitted on June 1, 2007, the Examiner remains unconvinced as indicated in the Final Office Action.

Regarding Applicants' first argument, that *Inomata* does not disclose "a first magnetic layer and a second magnetic layer having different magnitudes of magnetization," the Examiner states that this feature is in fact disclosed in paragraphs 58 and 47 of *Inomata*. Here *Inomata* discloses that "the two ferromagnetic layers forming the three-layered film are made to have a different thickness from each other."

The Examiner states, "*Inomata* discloses that the layers may be of different thicknesses, which creates a different magnitude of the magnetic layers in accordance with the instant specification." Emphasis added. Applicants' respectfully submit that the Examiner's language

here is imprecise. Independent claims 1 and 7 each require “different magnitudes of *magnetization*.” Emphasis added.

The Examiner appears to imply that having a different thickness of a ferromagnetic layer means having a different magnitude of magnetization. Applicants respectfully submit that the Examiner’s position is incorrect. Having a thicker ferromagnet will not increase the magnitude of the magnetization. It may increase the magnetic field, but this is not what is being claimed.

Applicants submit that a magnitude of magnetization will vary depending on, for example a charge or current density. In other words, the higher the charge (or current) density of a material, the more magnetized the material will be. Thus when *Inomata* discloses a different thickness for a particular ferromagnetic layer, the *magnitude of magnetization* will not change. The charge density of the ferromagnetic layer will remain the same. As discussed earlier, this may increase the magnetic field, but not the magnitude of magnetization.

This is also evidenced by formula (2) on page 16 where H represents a magnetic field and M represents magnetization. Thus the magnitude of magnetization is not the same as the strength of a magnetic field.

As such, Applicants respectfully submit that the cited reference does not disclose or fairly suggest the claimed feature.

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In addition to the arguments presented above, Applicants have amended the claims to further distinguish the claimed invention from the cited art.

Independent Claim 1:

Applicants have amended independent claim 1 to require in part:

said first magnetic layer of SyAF and said injection junction part are bonded, and

a spin polarization electron is injected from said spin injection part by flowing electric current between said spin polarizing part and said second magnetic layer, and magnetization of said first and second magnetic layers is reversed while maintained in antiparallel state without applying an external magnetic field.

Applicants respectfully submit that the above recited requirements of claim 1 are not disclosed or fairly suggested by the cited reference. As such, Applicants submit that claim 1 and its dependent claim are in condition for allowance.

Independent Claim 7:

Applicants have amended independent claim 7 to require in part:

the magnetization of said first and second magnetic layers is reversed by flowing electric current between said second magnetic layer of the free layer and said ferromagnetic fixed layer while maintained in an antiparallel state without applying an external magnetic field.

Applicants respectfully submit that the above recited requirements of claim 7 are not disclosed or fairly suggested by the cited reference. As such, Applicants submit that claim 7 and its dependent claim are in condition for allowance.

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Independent Claim 15:

Applicants have amended independent claim 7 to require in part:

the magnetization of said ferromagnetic free layer is reversed by flowing electric current between the spin polarization part and said nonmagnetic layer provided on the surface of said ferromagnetic free layer in the direction perpendicular to the film surface without applying an external magnetic field.

Applicants respectfully submit that the above recited requirements of claim 15 are not disclosed or fairly suggested by the cited reference. As such, Applicants submit that claim 15 and its dependent claim are in condition for allowance.

Independent Claim 17:

Applicants have amended independent claim 17 to require in part:

the magnetization of said ferromagnetic free layer is reversed by flowing electric current between the spin polarization part and the ferromagnetic fixed layer provided on the surface of said ferromagnetic free layer in the direction perpendicular to the film surface without applying external magnetic field

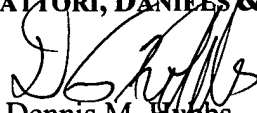
Applicants respectfully submit that the above recited requirements of claim 17 are not disclosed or fairly suggested by the cited reference. As such, Applicants submit that claim 17 and its dependent claim are in condition for allowance.

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If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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